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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,371	01/30/2006	Dieter Barfurth	283348US0PCT	2106
22850	7590	01/28/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			SASTRI, SATYA B	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			01/28/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/566,371	<b>Applicant(s)</b> BARFURTH ET AL.	
	<b>Examiner</b> SATYA B. SASTRI	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/14/09 has been entered. Claims 1, 2, 4-8, 10-17, 19-22 are now pending in the application.

### ***Claim Objections***

2. Claims 1 and 2 are objected to because of the following informalities:

In claim 1, "propyltrimethoxysilane" is repeated twice as component (ii).

In claim 2, line 4, the phrase "mixture the in" should be changed to "mixture in the".

Appropriate correction is required.

### ***Previously Cited Statutes***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claim 1, 2, 4-8, 10-17, 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because the claim language lacks clarity. It is unclear as to what the phrases “the polymer is polymerized from a polymer dispersion” and “polymerization of said polymer dispersion” recited in the claim language means. The phrase “polymer dispersion” is misleading. Additionally, in presently amended claim 1, it is unclear if the “polymer” is in the form of a “dispersion” comprising water and surfactant. It is not clear if applicants intend to claim a product obtained by polymerizing the mixture that is defined as “polymer dispersion”. Additionally, the wt. basis of components (i) and (ii) (based on the wt. of the monomer) is confusing, it is unclear as to what constitutes the monomer given that component (i), (ii) and monomer are incorporated into the polymer. Appropriate clarification is requested. Claims 2, 4-8, 10-17, 19-22 depend on the rejected base claim.

Claim 2 is indefinite because the phrase “[sic] the surfactant” lacks antecedent basis (see paragraph 2 above).

Claims 4-6 are indefinite because in the process recited in instant claim 2, a mixture is formed and subsequently a polymer dispersion is formed and the two steps are distinct. Therefore, it is unclear as to what the phrase “in the mixture and the polymer dispersion” implies in the presently cited claims.

5. Claims 1, 2, 4-8, 10-17, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eck et al. (US 5,753,733).

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The discussions with regard to Eck et al. in paragraphs 9 and 10 of the office action dated 3/13/09 and in paragraph 7 of the office action dated 8/13/09 are incorporated herein by reference.

In summary, Eck et al. disclose redispersible homopolymers and copolymers of ethylenically unsaturated monomers and one or more organosilicon compounds (col. 2, lines 8-67, col. 3, col. 4). The monomers are polymerized in the presence of 0.1 to 30% by wt. relative to the wt. of the monomers, of one or more silicon compounds (col. 1, lines 63-67). The polymerization is preferably carried out by emulsion polymerization, employing emulsifiers in an amount of 0 to 6% by wt., based on the total wt. of the monomers (col. 6, lines 22-35). Working examples disclose the use of a combination of organosilicon compounds, i.e. methacryloxypropyltriethoxysilane and isooctyltriethoxysilane. Presently recited components (i) and (ii) of claim 1 read on the organosilicon compounds of this preferred embodiment.

The prior art fails to disclose a polymer comprising a monomer, component (i) and (ii) as presently recited in claim 1.

Given that working example of Eck et al. discloses a combination of methacryloxypropyltriethoxysilane and isooctyltriethoxysilane while the general disclosure teaches equivalence and interchangeability of vinyltrimethoxysilane/vinyltriethoxysilane and methacryloxypropyltriethoxysilane, it would have been obvious to one of ordinary skill in the art to include a vinyltrimethoxysilane or vinyltriethoxysilane in lieu of methacryloxypropyltriethoxysilane, based on their art recognized equivalence with a reasonable expectation of success. In the instant case, substitution of equivalent compounds requires no

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express motivation, as long as the prior art recognizes equivalency. *In re Ruff* 118 USPQ 343 (CCPA 1958).

As noted above, it is unclear as to what exactly the claimed invention is. It is noted that the presently amended claim 1 is drawn to a composition comprising polymer, water and surfactant. Additionally, the polymer as recited in claim 1 comprises a monomer, component (i) and component (ii). With regard to the ratio of water and monomer and the surfactant content of water recited in presently amended claim 1, examiner notes that these correspond to the composition of the polymerizable dispersion, i.e. prior to polymerization. The presently amended claim directed to a composition comprising a polymer, surfactant and water is not necessarily limited by the surfactant/water content of the polymer dispersion.

With regard to claim 2, Eck et al. disclose that the polymerization may be carried out with initial introduction of all the constituents or individual constituents of the reaction mixture (col. 6, lines 1-35, col. 6-7, bridging paragraph, claims 6-8). Furthermore, the working example 1 discloses a process wherein monomer and the silicon-containing compounds are all emulsified into a solution of protective colloid. Given that the disclosure is open to use of emulsifiers and/or protective colloids, it would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce the reactive components individually or as a mixture into water containing an emulsifier and polymerizing the mixture as claimed presently.

With regard to claims 4-6, working examples of Eck et al. reference disclose polymers comprising the organo silicon compounds, i.e. methacryloxypropyltriethoxysilane and isooctyltriethoxysilane wherein within the presently claimed range. The prior art teaches

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functional equivalence of vinyltrimethoxysilane/vinyltriethoxysilane and methacryloxypropyltriethoxysilane as noted above.

With regard to claims 7, 12, 15, 16, 17, 19 and 20, the prior art discloses homopolymers and copolymers of vinyl acetate, (meth)acrylic acid esters, styrene and other monomers (col. 2, lines 28-67, col. 3, lines 1-30). Precursor stage of a polyvinyl alcohol and polyvinyl acetate as recited in instant claims 19 and 20 read on vinyl acetate monomer.

With regard to claims 10 and 11, Eck et al. disclose the use of dispersion powder (obtained by drying the aqueous dispersion) with hydraulic binder, for the preparation of building adhesives, plaster, stopper compositions etc. (col. 8, lines 25-42) and one of ordinary skill in the art would have found it obvious to use aqueous dispersions where appropriate.

With regard to claims 13 and 14, Eck et al. disclose vinyltriethoxysilane as preferred silicon containing monomer and silicic acid esters of  $\text{Si}(\text{OR}')_4$  and organoorganoxysilane of  $\text{SiR}_n(\text{OR}')_{4-n}$  type with  $\text{R}'$  having 1-4 carbon atoms and  $\text{R}$  having 1 to 22 carbon atoms as preferred non-copolymerizable organosilicon compounds (col. 4, lines 30-53). Presently recited compounds fall within the scope of the disclosed silicic esters.

With regard to newly added claims 21 and 22, Eck et al. disclose methacrylic acid ester such as methylmethacrylate and n-butyl acrylate/t-butyl acrylate as particularly preferred monomers (col. 2, lines 42-65). Additionally, in a preferred embodiment, (meth)acrylic acid ester copolymers comprise 0.05 to 10% by wt. of acrylic or methacrylic acid (col. 3, lines 8-15).

### ***Response to Arguments***

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6. Acknowledgement is made of the submission of certified copy of the priority document DE 10334574.5 to the international Bureau and the request by the office is withdrawn. In view of the amendment and arguments, all previous rejections are withdrawn. Applicant's arguments have been fully considered but are moot in view of new grounds of rejection set forth above. Applicant's arguments on unexpected results are not found persuasive because the prior art to Eck et al. clearly exemplifies a combination of polymerizable silane (functionally equivalent to vinyl silane) and alkyl silane.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112. The examiner can be reached on Mondays, Thursdays and Fridays, 7AM-5.30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Wu can be reached on 571-272-1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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/Satya B Sastri/

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